

A-RDP79R01012A008600010007-1
SIGNATURE RECORD AND COVER SHEET

DOCUMENT DESCRIPTION	O/NE NIE 11-57 16 July 1957 CY # <u>64</u> 10 total pages 1 each	TS# 102532-1	REGISTRY
SOURCE			CIA CONTROL NO.
DOC. NO.			DATE DOCUMENT RECEIVED
DOC. DATE			LOGGED BY
COPY NO.			
NUMBER OF PAGES			
NUMBER OF ATTACHMENTS			

ATTENTION: This form will be placed on top of and attached to each Top Secret document received by the Central Intelligence Agency or classified Top Secret within the CIA and will remain attached to the document until such time as it is downgraded, destroyed, or transmitted outside of CIA. Access to Top Secret matter is limited to Top Secret Control personnel and those individuals whose official duties relate to the matter. Top Secret Control Officers who receive and/or release the attached Top Secret material will sign this form and indicate period of custody in the left-hand columns provided. Each individual who sees the Top Secret document will sign and indicate the date of handling in the right-hand columns.

[illegible]

NOTICE OF DETACHMENT: When this form is detached from Top Secret material it shall be completed in the appropriate spaces below and transmitted to Central Top Secret Control for record.

DOWNGRADED	DESTROYED	DISPATCHED (OUTSIDE CIA)	
TO	BY (Signature)	TO	
BY (Signature)	WITNESSED BY (Signature)	BY (Signature)	
DATE	DATE	OFFICE	DATE

64

TOP SECRET

NIE 11-57
16 July 1957
TS # 102532-1

NATIONAL INTELLIGENCE ESTIMATE

NUMBER 11 - 57

(Supersedes NIE 11-5-57)

(Advance Conclusions)

SINO-SOVIET BLOC AIR DEFENSE CAPABILITIES THROUGH MID-1962

Submitted by the

DIRECTOR OF CENTRAL INTELLIGENCE

The following intelligence organizations participated in the preparation of this estimate: The Central Intelligence Agency and the intelligence organizations of the Departments of State, the Army, the Navy, the Air Force, The Joint Staff, and the Atomic Energy Commission.

Concurred in by the

INTELLIGENCE ADVISORY COMMITTEE

on 16 July 1957. Concurring were the Special Assistant, Intelligence, Department of State; the Assistant Chief of Staff, Intelligence, Department of the Army; the Director of Naval Intelligence; the Assistant Chief of Staff, Intelligence, USAF; the Deputy Director for Intelligence, The Joint Staff; and the Atomic Energy Commission Representative to the IAC. The Assistant Director, Federal Bureau of Investigation, abstained, the subject being outside of his jurisdiction.

TOP SECRET

TOP SECRET

TS # 102532-1

C E N T R A L I N T E L L I G E N C E A G E N C Y

SINO-SOVIET BLOC AIR DEFENSE CAPABILITIES THROUGH MID-1962

THE PROBLEM

To estimate the scale and nature of Sino-Soviet Bloc air defenses, and probable trends and capabilities through mid-1962.

FOREWORD

This estimate is made within the framework of our previous judgments that the USSR does not now intend to initiate general war deliberately and is not now preparing for general war as of any particular future date. It is based, moreover, on a judgment that the USSR is reasonably assured that the US and its Allies are not now planning the deliberate initiation of general war. The estimate assumes that these conditions will prevail through mid-1962, and that neither domestic or international political changes nor unexpected technological breakthroughs which would alter the general trends in Bloc and Western military capabilities will occur during

TOP SECRET

TOP SECRET

the period. It also does not consider any change in military force levels which might result from a disarmament agreement.

The estimate does not concern itself with the detailed strategy and tactics that might be employed by US and Allied forces in attacks against the Bloc, nor does it attempt to evaluate in detail the kill probabilities of Bloc air defense weapons against attacking aircraft or missiles. Likewise, the reduction in Western offensive capabilities which might result from an initial Soviet attack, and the reduction in Soviet defensive capabilities which might result from the initial phase of a general war, are not estimated.

An estimate of Soviet air defense capabilities over the next five years is subject not only to the usual uncertainties inherent in future projections, but to additional uncertainties arising from the probable emergence during this period of significant guided missile capabilities, both offensive and defensive, in Western and Soviet forces. On the basis of presently available evidence, the impact of these developments on Soviet air defense programs during the period cannot be estimated with confidence. Fairly broad margins of error must therefore be presumed to apply to the later years covered by the estimate.

- ii -

TOP SECRET

TOP SECRET

CONCLUSIONS

GENERAL

1. We believe that air defense will continue to be given a high priority in the Sino-Soviet Bloc. Primary emphasis is placed on providing defense in depth for key administrative, industrial, and military centers within the USSR. All Bloc forces with capabilities for air defense are integrated into the over-all system. (Paras. 15-20, 39, 53-54)

2. At present, the principal elements of overall Bloc air defense strength are large numbers of fighter aircraft, early warning and ground controlled intercept radars, and antiaircraft artillery weapons. Bloc fighter strength now totals about 14,000 aircraft, virtually all of which are high-performance jet fighters. Of about 10,000 fighters in Soviet units, approximately 1,300 now have at least limited all-weather capabilities. The USSR has made great strides in radar development, and large numbers of modern radars are now in operation. Bloc AAA weapons are capable of high rates of continuously-pointed fire against high-performance aircraft from low altitudes up to about 35,000 feet. (Paras. 21, 23-26, 32, 39, 44, 46)

- iii -

TOP SECRET

TOP SECRET

3. A significant addition to Soviet air defenses has been the introduction of guided missile systems. Surface-to-air guided missile installations are now operational in the Moscow area, and there is some evidence that they are under construction at Leningrad. Air-to-air guided missiles could probably now be employed with certain Soviet fighter types. (Paras. 27-28a, 42, 79, 80)

4. The areas of high concentration of Bloc air defense weapons and associated equipment include that portion of European USSR from the Kola Peninsula to the Caspian Sea, East Germany, Poland, Czechoslovakia, and the Maritime and Sakhalin areas of the Soviet Far East. High defense concentrations are also at some specific locations outside these areas, such as Tashkent, Novosibirsk, and Khabarovsk. (Paras. 39-41, 44)

5. The principal current weaknesses in the air defense system are: its limited all-weather fighter capability; the low traffic-handling capabilities of communications and control components; the probable inadequacy of radar height-finding capabilities at high altitudes and inadequate low altitude radar coverage; deficiencies in fighter armament; and the limited early warning time available in Bloc border areas. (Paras. 22-23a, 28-31, 33, 39, 47, 53-54, 83)

- iv -

TOP SECRET

TOP SECRET

6. Large passive defense organizations contribute to the Bloc's over-all readiness for air defense. We believe, however, that the general population is inadequately prepared against large-scale nuclear attack. (Paras. 55-63a)

CURRENT CAPABILITIES

7. The following air defense capabilities apply in general to the Bloc's air defense system:

a. Against penetrations conducted during daylight and in clear weather, at altitudes between about 5,000 and about 35,000 feet, the capabilities of the system are greatest. Above 35,000 feet they would begin to diminish, and above 45,000 feet would fall off markedly; at altitudes below 5,000 feet, they would also be progressively reduced. (Paras. 24-25, 27, 29-31)

b. Against penetrations conducted at night and under poor visibility conditions, the capabilities of the system would be considerably reduced. (Paras. 21, 23, 39)

c. Against varied penetration tactics utilizing altitude stacking, diversionary maneuvers, decoys, and electronic

- v -

TOP SECRET

TOP SECRET

countermeasures, the capabilities of the air defense system would be diminished through disruption and saturation.

(Paras. 23, 31, 33-35, 53-54)

8. The approaches to Moscow are by far the most heavily defended area of the Bloc. Moscow's defenses include nearly 1,300 jet day and all-weather fighters, approximately 700 antiaircraft guns, and some 57 surface-to-air guided missile sites. The Moscow missile system, which could include a limited number of nuclear warheads, can probably direct a very high rate of fire against multiple targets at altitudes up to about 60,000 feet. Moscow's defenses are thus estimated to have a high capability to engage large-scale attack under all-weather conditions, but they probably remain vulnerable to very low altitude attack. (Paras. 27, 42, 81)

9. The amount of warning time available has a significant effect on the air defense capabilities of the various areas of the Bloc. Moscow and many other targets in the interior could now be provided with more than one hour's radar early warning of attack by present Western aircraft types. The more limited early warning time available in Bloc border areas would reduce the effectiveness of the defenses of even heavily-defended targets in such areas. (Para. 83)

- vi -

TOP SECRET

TOP SECRET

10. The USSR is currently capable of jamming and seriously disrupting Western long-range radio communications. It is also believed to have an appreciable capability for jamming Western navigational and bombing radars. On the other hand, operational Bloc air defense electronic equipment is vulnerable to jamming. (Para. 37)

FUTURE TRENDS

11. There will probably be a significant change in the composition of Soviet air defense forces during the next five years, primarily because of the influence of guided missile systems. As suitable surface-to-air missiles and associated equipment become available in quantity, a large portion of the medium and some light antiaircraft artillery guns will probably be phased out of the defenses of static targets in the USSR. At present, we can estimate only that the USSR will probably not increase its present numerical fighter strength, and that a decision will probably be taken to begin cutting back the number of Soviet manned interceptors some time late in the period. The numerical strength of Satellite and Chinese Communist AAA and fighter forces will probably continue to be augmented, largely with older equipment retired from Soviet service. (Paras. 72a-73a, 79-80, 82)

- vii -

TOP SECRET

TOP SECRET

12. Significant developments in Bloc/^{air}defenses will probably include: the introduction of fighter aircraft with higher performance and better armament, including air-to-air guided missiles and unguided rockets, some possibly equipped with nuclear warheads; an increase in the proportion of all-weather fighters in Soviet operational units; the advent of new surface-to-air guided missile systems suitable for defense of static targets, field forces, and naval vessels, and their availability to additional major Soviet cities and industrial areas, as well as military units; extensions of early warning and ground controlled intercept radar ranges, and the availability of sufficient radars to provide nearly complete early warning coverage of the Bloc; increases in the traffic-handling capacities of command and control components. (Paras. 71-77, 79-82, 85, 88-89, 92)

13. These developments will considerably increase Bloc capabilities for all-weather defense against Western manned aircraft and cruise-type missiles. Nevertheless, at the end of the period, warning times available to Bloc targets in peripheral areas will probably continue to be deficient for fighter interceptors and marginal for surface-to-air missile defenses against the highest-performance Western aircraft and cruise-type missiles. The Bloc will continue to have difficulty in opposing very low altitude attacks. (Paras. 67, 76, 83-85)

- viii -

TOP SECRET

TOP SECRET

13a. In the field of electronic countermeasures, the advantage is likely to fluctuate between the offense and the defense. However, we estimate that through the period of this estimate, Bloc air defense electronic systems will still be subject to progressive disruption by properly employed diversionary tactics, decoys, saturation techniques and other countermeasures. (Paras. 92-93)

14. We believe the USSR will not be able to place in operation a weapon system capable of successfully intercepting ballistic missiles by mid-1962. (Para. 78)

- ix -

TOP SECRET